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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/386,745	08/31/1999	CANGSHAN XU	257/027	1749

22249 7590 02/25/2003

LYON & LYON LLP
633 WEST FIFTH STREET
SUITE 4700
LOS ANGELES, CA 90071

EXAMINER

PEREZ RAMOS, VANESSA

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 02/25/2003

24

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/386,745

Applicant(s)

XU ET AL.

Examiner

Vanessa Perez-Ramos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 8-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 24-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 39 and 40 provide for method limitations to an apparatus claim, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 39 and 40 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-7 and 24-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dudovicz et al. (WO 99/06182), in view of Birang (EP 0 738 561 A1), in further view of Engdahl et al. (U.S. 6,336,845).

In regard to claim 1, Dudovicz et al. discloses an endless belt that may have holes that extend through the belt (from top to bottom), or grooves that extend in the running direction of the belt (from side to side) (Dudovicz, as supplied by Applicant's IDS, page 8, lines 1-7), and makes no mention of any "window" in the belt. This reads on Applicant's "at least one aperture through the belt so that the aperture is substantially free of a window".

Dudovicz is silent about the aperture positioned to allow monitoring of the workpiece through it, nor does Dudovicz disclose a notch or trigger hole, a monitor and a sensor.

Birang discloses an apparatus wherein a hole (30) that is "positioned such that it has a view of the wafer" (Birang, col. 9, lines 32-35), which reads on Applicant's "positioned to allow monitoring of the workpiece".

Engdahl discloses a polishing system that includes a belt, and further comprises a notch or characteristic reference mark (col. 18 lines 18-20), and a monitor and sensor, which sense the workpiece (col. 14, lines 60-67). Contrary to the claimed invention, Engdahl's reference mark is located on the wafer and not the belt.

It is the Examiner's position that it would have been obvious to one skilled in the art at the time of the invention to modify Dudovicz by utilizing the aperture(s) to monitor the wafer, and, furthermore, to have a reference mark such as a notch or trigger hole, a monitor and a sensor, as per Birang and Engdahl, because wafer monitoring is an important part of the semiconductor manufacturing process, providing an indication of the polishing progress, which is extremely helpful during semiconductor manufacturing. Even if Engdahl's monitoring notch is located on the wafer, one skilled in the art, when presented with the teachings of Engdahl,

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would be motivated to try monitoring notches on different pieces of equipment, with the anticipation of being able to achieve proper monitoring of the process taking place.

In regard to claims 2-7, these claims differ from claim 1 above by describing the number, location and configuration of the apertures in the belt.

Dudovicz is silent about the specific location, number and configuration of his apertures, although it is clear that his apertures have, indeed, a certain configuration, a specific location and are present in a specific amount.

It is the Examiner's position that variations such as shape, number and location of a piece would have been obvious to one of ordinary skill in the art at the time of the invention.

In regard to claims 24-41, these claims differ from claims 1-7 above by including the limitation that the belt further comprises "fluid platens". Engdahl discloses platens that can supply air, a liquid or a vacuum to the belt, which reads on Applicant's "fluid platen" (col. 10, lines 46-50).

Response to Arguments

5. Applicant's arguments filed 11/4/02 have been fully considered but they are not persuasive.

In response to Applicant's argument that Birang discloses a window, so Dudovicz in view of Birang does not disclose an a system free of a window, it is noted that Birang does not disclose a window, but rather an aperture positioned to allow a view of the wafer, which reads on Applicant's "aperture...positioned to allow monitoring of the wafer".

In regard to Applicant's argument that the notches of claim 1 are located along the belt, wherein the notches of Engdahl are located on the wafer, it is noted that the Examiner is aware

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of this limitation; however, it is the Examiner's position, as stated previously on this Action, that even if Engdahl's monitoring notch is located on the wafer, one skilled in the art, when presented with the teachings of Engdahl, would be motivated to try monitoring notches on different pieces of equipment, including the belt, with the anticipation of being able to achieve proper monitoring of the process taking place.

In response to Applicant's argument that Engdahl does not disclose a belt with an aperture substantially free of a window, and thus there would be no motivation to modify Engdahl, the Examiner has asserted that Dudovicz discloses an endless belt with an aperture and free of a window. The teachings of Dudovicz have been relied upon by the Examiner as proof that utilizing reference marks to monitor semiconductor manufacturing processes is well known and critical.

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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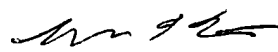
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Perez-Ramos whose telephone number is 703-306-5510. The examiner can normally be reached on Mon-Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on 703-308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Vanessa Perez-Ramos
Examiner
Art Unit 1765

VPR
February 23, 2003


BENJAMIN L. UTECH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700